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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/657,714	KO ET AL.	
	Examiner	Art Unit	
	Aaron M. Richer	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-41* is/are pending in the application.

4a) Of the above claim(s) *15-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-14 and 36-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed May 4, 2007 have been fully considered but they are not persuasive.

2. Applicant argues that Kimura teaches away from claims 1 and 12, since Kimura adjusts color temperature by controlling a hue signal and claims 1 and 12 do not. Applicant further notes that Park does not cure the alleged deficiencies of Kimura. Examiner notes that the standard for "teaching away" is a high one. With respect to "teaching away", MPEP 2145 states that "the nature of the teaching is highly relevant" and that "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." It is noted that there is nothing in the Kimura reference that discourages the claimed solution of adjusting the color temperature value or adjusting brightness. Kimura is not relied on in the rejection for brightness adjustment at all; it is in fact Segal that teaches this adjustment by color clipping. As stated in the previous rejection, Kimura teaches adjusting a color temperature to a set desired level (i.e. a predetermined value) when luminance is high. One skilled in the art would find this to be compatible with the Segal reference and would be motivated to combine the two to make white colors more pleasing to the eye of a user.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 36 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 36 recites the limitation "the RGB signal generator to detect a total maximum of the RGB color signals" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 4-7, 9-14, and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segal (U.S. Patent 6,791,567) in view of Kimura (U.S. Patent 7,084,880).

8. As to claim 1, Segal discloses:

a RGB color signal generator to detect a maximum value of each of the RGB color signals, to compare the maximum values, and to detect a color signal having a higher maximum value than the other color signals of the RGB color signals (col. 4, lines 41-60; colors are adjusted based on the greatest maximum value if one exists);

and a system controller to provide a predetermined critical value, the predetermined value, and data on conditions for detecting a color signal having the

higher maximum value than the other color signals to the RGB color signal generator (col. 2, lines 60-67; the invention acts as a controller, supplying all max values and thus, conditions for detecting the highest max value, also providing the critical value to a ratio setting unit), wherein the RGB color signal generator to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios is based on the comparison result (col. 4, lines 29-65; the RGB signals are decreased by a ratio, predetermined by the max value divided by the max allowable value; this would be at least partially based on the max value detected, which is the result of the comparison above).

Segal does not disclose having a color temperature increased to a predetermined value, nor does Segal disclose a system controller providing a predetermined value. Kimura however, discloses, a color temperature correction apparatus that works when a luminance is high and a color saturation is below a predetermined threshold (col. 2, lines 59-65). In other words, the invention changes the color temperature for white areas and close-to-white areas. Based on this determination of luminance and saturation, the invention of Kimura then increases one component in comparison to others, raising the color temperature to some desired level (col. 1, lines 43-58). The motivation for this is to make a white color more pleasing to a user (col. 1, lines 43-58). It would have been obvious to one skilled in the art to modify Segal to modify a color temperature to a predetermined color temperature based on a threshold in order to make a white color more pleasing to a user as taught by Kimura.

9. As to claim 4, Segal discloses an apparatus wherein the predetermined ratios are set using data provided from the system controller based on reference data input by a user (col. 3, lines 49-60; col. 4, lines 16-21).

10. As to claim 5, Segal discloses an apparatus wherein the RGB color signal generator windows a predetermined area of the screen, and then detects the total maximum value of the RGB color signals in the predetermined area (col. 2, lines 56-67; a surface as in fig. 1-4 reads on a predetermined area of the screen).

11. As to claim 6, Segal discloses an apparatus wherein the predetermined area is determined depending on a highest resolution supported by the screen on which the image is displayed (col. 2, lines 56-67; a surface is selected and resolution is inherently a factor in determining the coordinates of that surface; if a surface were being displayed on a high resolution monitor vs. a low resolution monitor, these coordinates would be different).

12. As to claim 7, Segal discloses an apparatus wherein the brightness of the screen is automatically adjusted (col. 3, lines 49-60; the function can be modified by a user, otherwise it is automatic).

13. As to claim 9, Segal discloses an apparatus wherein the data on the conditions for detecting a color signal having the higher maximum value than the other color signals includes a reference value used in comparing the maximum values and detecting the color signal having the higher maximum value than the others with the data on the conditions (col. 4, lines 35-60; the "sample pixel value" listed in table 1 reads on a reference value for detecting a color with a higher max value), and the

reference value is set based on a difference value such that a user perceives a maximum value of the color signal displayed on the screen to be higher than those of the other color signals (col. 4, lines 35-65; inherently, a user will perceive the greatest max value color, 637.5 or 255, as higher than other lower colors).

14. As to claim 10, Segal discloses an apparatus wherein the RGB color signal generator detects the maximum values of the RGB color signals in each frame (p. 9, section 0178; p. 12, section 0214).

15. As to claim 11, Kimura discloses an apparatus wherein the color temperature of the screen is automatically adjusted (col. 2, lines 59-65; the temperature is modified based on thresholds and not user interaction).

16. As to claim 12, Segal discloses an apparatus for adjusting brightness of a screen on which input RGB color signals are displayed, the apparatus, comprising:

a RGB color signal generator to detect a maximum value of each of the RGB color signals, to compare the total maximum value with a predetermined critical value (col. 1, lines 62-67; col. 2, lines 60-67), and to generate RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios based on the comparison result (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor and a ratio is a part of this calculation);

and a system controller to provide the predetermined critical value to the RGB color signal generator (col. 2, lines 60-67; the invention acts as a controller, providing the critical value to a ratio setting unit).

Segal does not disclose having a color temperature increased to a predetermined value, nor does Segal disclose a system controller providing a predetermined value. Kimura however, discloses, a color temperature correction apparatus that works when a luminance is high and a color saturation is below a predetermined threshold (col. 2, lines 59-65). In other words, the invention changes the color temperature for white areas and close-to-white areas. Based on this determination of luminance and saturation, the invention of Kimura then increases one component in comparison to others, raising the color temperature to some desired level (col. 1, lines 43-58). The motivation for this is to make a white color more pleasing to a user (col. 1, lines 43-58). It would have been obvious to one skilled in the art to modify Segal to modify a color temperature to a predetermined color temperature based on a threshold in order to make a white color more pleasing to a user as taught by Kimura.

17. As to claim 13, Kimura discloses an apparatus wherein color temperature is increased to a predetermined value (col. 1, lines 43-58).

18. As to claim 14, Segal discloses an apparatus wherein brightness is automatically adjusted (col. 3, lines 49-60; the function can be modified by a user, otherwise it is automatic), and Kimura discloses an apparatus wherein color temperature is automatically adjusted (col. 2, lines 59-65; the temperature is modified based on thresholds and not user interaction). Motivation for this combination can be found in the rejection to claims 1 and 12.

19. As to claim 36, Segal discloses an apparatus wherein the RGB signal generator to detect a total maximum of the RGB color signals compares the total maximum value

with the predetermined critical value (col. 1, lines 62-67; col. 2, lines 60-67), and generates RGB color signals so as to increase or decrease the brightness level of the image displayed on the screen (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor).

20. As to claim 37, Segal discloses a method comprising:

detecting and storing maximum values of each of the RGB color signals (col. 4, lines 41-60);

comparing the maximum values to detect a color signal having a higher maximum value than the other color signals (col. 4, lines 41-60; colors are adjusted based on the greatest maximum value if one exists);

and generating RGB color signals so as to increase or decrease a brightness level of an image displayed on the screen by one of a plurality of predetermined ratios (col. 4, lines 29-65; the RGB signals are decreased by a ratio, predetermined by the max value divided by the max allowable value; this would be at least partially based on the max value detected, which is the result of the comparison above).

Segal does not disclose increasing a color temperature of the detected color signal to a predetermined value to compensate for the color temperature of the detected color signal if the color is detected. Kimura, however, discloses a color temperature correction apparatus that works when a luminance is high and a color saturation is below a predetermined threshold (col. 2, lines 59-65). In other words, the invention changes the color temperature for white areas and close-to-white areas. Based on this determination of luminance and saturation, the invention of Kimura then increases one

component in comparison to others, raising the color temperature to some desired level (col. 1, lines 43-58). The motivation for this is to make a white color more pleasing to a user (col. 1, lines 43-58). It would have been obvious to one skilled in the art to modify Segal to modify a color temperature to a predetermined color temperature based on a threshold in order to make a white color more pleasing to a user as taught by Kimura.

21. As to claim 38, Segal discloses a method further comprising:

detecting and storing a total maximum value of the RGB color signals and comparing the total maximum value with a predetermined critical value (col. 1, lines 62-67; col. 2, lines 60-67),

wherein generating the RGB color signals so as to increase or decrease the brightness level of the image displayed on the screen is based on the comparison result for the total maximum value with the predetermined critical value (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor).

22. Claims 2, 3, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segal in view of Kimura and further in view of Park (U.S. Publication 2002/0163527).

23. As to claim 2, Segal discloses an apparatus wherein the predetermined critical value comprises a first predetermined critical value determined in a case where the brightness level of pixels in an area of the screen from which the total maximum value is detected corresponds to substantially full white (col. 1, lines 14-22; the maximum value which is acted upon corresponds to a color substantially white).

Neither Segal nor Kimura discloses an apparatus in which a second predetermined critical value determined in a case where the brightness level of pixels in the area corresponds to substantially full black. Park, however, discloses a value that corresponds to a set black point (p. 3, section 0058). The motivation for this is to promote color accuracy at both sides of the color spectrum efficiently, without use of color cards, for instance (p. 1, section 0007). It would have been obvious to one skilled in the art to modify Segal in view of Kimura to set a critical value corresponding to full black in order to efficiently reproduce both white and black as taught by Park.

24. As to claim 3, Segal discloses an apparatus wherein if the total maximum value is greater than the first predetermined critical value, the RGB color signal generator decreases the brightness level of the image on the screen by one of the predetermined ratios by generating less bright RGB color signals (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor and a ratio is a part of this calculation).

Neither Segal nor Kimura discloses that if the total maximum value is less than the second predetermined critical value, the RGB color signal generator increases the brightness level of the image on the screen by another of the predetermined ratios by generating brighter RGB color signals. Park, however, discloses setting a color to a relative brightness of 0, which increases brightness by a certain ratio, considering that originally the brightness would have actually been blacker than the black point of the monitor. The motivation for combining the black point critical value apparatus of Park

with the white point apparatus of Segal in view of Kimura can be found in the rejection to claim 2.

25. As to claim 39, Segal discloses a method wherein generating the RGB signals generates RGB color signals having decreased brightness by decreasing the brightness level of the image by one of the plurality of the predetermined ratios if the total maximum value is greater than a first predetermined critical value (col. 2, lines 17-24; col. 3, lines 43-60; col. 4, lines 54-60; brightness is reduced by a determined scaling factor and a ratio is a part of this calculation), determined in a case wherein a brightness level of pixels in an area of the screen from which the total maximum value is detected corresponds to full white (col. 1, lines 14-22; the maximum value which is acted upon corresponds to a color substantially white),

Neither Segal nor Kimura discloses a method wherein generating the RGB color signals generates RGB color signals having increased brightness by increasing the brightness level of the image by one of the plurality of the predetermined ratios if the total maximum value is less than a second predetermined critical value, determined in consideration of a case wherein a brightness level of pixels in the area of the screen from which the total maximum value is detected corresponds to full black. Park, however, discloses a value that corresponds to a set black point (p. 3, section 0058). Park thus discloses setting a color to a relative brightness of 0, which increases brightness by a certain ratio, considering that originally the brightness would have actually been blacker than the black point of the monitor. The motivation for this is to promote color accuracy at both sides of the color spectrum efficiently, without use of

color cards, for instance (p. 1, section 0007). It would have been obvious to one skilled in the art to modify Segal in view of Kimura to set a critical value corresponding to full black in order to efficiently reproduce both white and black as taught by Park.

26. As to claim 40, see the rejection to claim 14.

27. As to claim 41, Segal discloses a method wherein the detecting and storing a total maximum value of the RGB color signals includes windowing a predetermined area of the screen, and then detecting the total maximum value of the RGB color signals in the predetermined area (col. 3, lines 14-16; the color clipping method can be done for one surface, which would correspond to a windowed predetermined area of the screen).

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M. Richer whose telephone number is (571) 272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMR
8/5/07

KEE M. TUNG
SUPERVISORY PATENT EXAMINER